



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,950	11/26/2003	Stephen Gold	100204110-1	9415
22879	7590	03/27/2007	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			ELMORE, REBA I	
			ART UNIT	PAPER NUMBER
			2189	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/27/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/723,950	GOLD ET AL.	
	Examiner Reba I. Elmore	Art Unit 2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 January 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-46 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/10/07.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

1. Claims 1-46 are presented for examination.

SPECIFICATION

2. The objection to the title is ***maintained***. The current title is vague to the point of not conveying any distinction of the current claimed present invention over any other data storage system or method.
3. The objection to the specification not including information to the copending application is ***withdrawn*** due to the amendment.
4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

35 USC § 102

5. The rejection of claims 1-36 as being anticipated by Wahl et al. is ***maintained*** and updated below to show the amendment. Additional cites are given in the body of the rejection to provide a more detailed explanation as to how the reference applies to the claimed invention.
6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Wahl et al.

8. Wahl teaches the invention (claims 1) as claimed including a data management system comprising:

a data storage system configured to store data of a plurality of client protected computer systems, wherein the data storage system comprises a plurality of storage devices individually having a respective capacity, and a quantity of the data of the protected computer systems to be stored exceeds capacities of individual storage devices as using a RAID system for back-up or mirror storage of database files (e.g., see col. 24, lines 5-24) the reference also discusses overflow conditions for memory elements which teaches the storage capacity being exceeded (e.g., col. 1, lines 24-37); and,

storage control circuitry coupled with the data storage system and configured to assign individual storage devices to store data for respective protected computer system (e.g., see col. 5, line 32 to col. 6, line 27 and col. 24, lines 5-24).

As to claim 2, Wahl teaches the storage control circuitry is configured to receive a request to add a new protected computer system and to assign one of the storage devices to implement data storage operations with respect to the new protected computer system as the network having more than one secondary computer system (e.g., see col. 6, lines 34-58).

As to claim 3, Wahl teaches the storage control circuitry is configured to monitor a status of at least one storage device and to assign a storage device for the new protected computer responsive to the monitoring as using throttles (e.g., see col. 15, lines 1-29).

As to claim 4, Wahl teaches the monitoring a processing capacity of an archive agent of at least one storage device as using a throttle which monitors percentages of central processing unit resources (e.g., see col. 15, lines 1-29).

As to claim 5, Wahl teaches the monitoring a storage capacity of a storage device (e.g., see col. 15, lines 1-29).

As to claim 6, Wahl teaches monitoring a status of a plurality of storage devices and assigning the storage device having a greatest available capacity as dynamically assigning disk storage space (e.g., see col. 3, lines 24-37).

As to claim 7, Wahl teaches entireties of the data for the protected computer systems are stored using respective assigned storage devices as a feature of the Qualix DataStar software which controls the data mirroring environment of the disk system (e.g., see col. 5, line 57 to col. 6, line 27).

As to claim 8, Wahl teaches the entireties of the data has a baseline data and associated delta data for the respective protective computer system as update data (e.g., see col. 9, lines 48-58).

As to claim 9, Wahl teaches the storage control circuitry is configured to assign a plurality of storage devices to store an entirety of the data for one of the protected computer systems as mirrored data (e.g., see col. 10, line 62 to col. 12, line 20).

As to claim 10, Wahl teaches the storage control circuitry comprises a tracking database configured to store associations of the storage devices with respective protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29).

As to claim 11, Wahl teaches the storage devices comprise disk storage devices (e.g., see col. 1, lines 12-67).

As to claim 12, Wahl teaches at least one storage device is configured to store data for a plurality of the protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29).

As to claim 13, Wahl teaches the storage devices individually comprise an archive agent and a storage space as a secondary computer system and remote data mirroring system (e.g., see col. 8, lines 46-58).

As to claim 14, Wahl teaches the storage control circuitry comprises a master cell manager and at least one slave cell manager and wherein the master cell manager is configured to assign one of the protected computer systems to a storage device associated with at least one slave cell manager with the master cell manager being the primary mirror daemon and the slave cell manager being the remote mirror daemon (e.g., see Figure 1).

As to claim 15, Wahl teaches one of the storage devices is configured to transfer data for one of the protected computer systems to another storage device (e.g., see Figure 5).

9. Wahl teaches the invention (claim 16 and 38-46) as claimed including a data management system comprising:

plural means for storing electronic data, wherein individual ones of the plural means for storing comprise a respective data storage capacity as the data storage capacity of the primary storage system (e.g., see Figure 5);

means for communicating data intermediate to the plural storage means and a plurality of client protected computer systems, wherein a quantity of data of the client protected computer systems exceeds individual data storage capacities of individual means for storing as dynamically assigning memory space dependent upon overflow conditions (e.g., see col. 3, lines 24-54); and,

means for assigning individual ones of the means for storing to store data for respective client protected computer systems (e.g., see col. 3, lines 24-54).

As to claim 17, Wahl teaches the plurality means for storing individually comprise means for storing an entirety of the data for a respective client protected computer system (e.g., see Figure 1).

As to claim 18, Wahl teaches plural ones of the means for storing comprise means for storing an entirety of the data for a respective client protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29).

As to claim 19, Wahl teaches a tracking means for storing information regarding associations of individual plural means for storing with respective client protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29).

As to claim 20, Wahl teaches the plural means for storing individual archive means and physical storage means (e.g., see Figure 5).

10. Wahl teaches the invention (claim 21) as claimed including an article of manufacture comprising:

a processor-usable medium comprising processor-usable code configured to cause processing circuitry of storage control circuitry as the Qualix DataStar software which controls the data mirroring environment of the disk system (e.g., see col. 5, line 57 to col. 6, line 27) to:

access information regarding a plurality of storage devices (e.g., see Figure 5);

access information regarding a plurality of client protected computer systems (e.g., see col. 23, line 61 to col. 24, line 29);

associated individual protected computer systems with respective storage devices (e.g., see col. 23, line 61 to col. 24, line 29);

receive a request to add a new protected computer system (e.g., see col. 3, lines 24-37);

monitor capacities of the storage devices (e.g., see col. 5, line 57 to col. 6, line 58); and,

assign the new protected computer to a storage device responsive to the monitoring (e.g., see col. 5, line 57 to col. 6, line 58).

As to claim 22, Wahl teaches the processor-usuable code is configured to cause the processing circuitry to associate responsive to user input (e.g., see col. 5, line 31 to col. 6, line 58).

As to claim 23, Wahl teaches the processor-usuable code is configured to cause the processing circuitry to associated responsive to the monitoring (e.g., see col. 5, line 31 to col. 6, line 58).

11. Wahl teaches the invention (claim 24) as claimed including a data storage method comprising:

providing a plurality of storage devices configured to store data for a plurality of client protected computer systems, wherein the storage devices individually comprise processing circuitry and a storage space as using a RAID system for back-up or mirror storage of database files (e.g., see col. 24; lines 5-24);

monitoring capacities of individual storage devices as using throttles which monitor percentages of central processing unit resources (e.g., see col. 15, lines 1-29);

associating one of the protected computer systems with one of the storage devices responsive to the monitoring (e.g., see col. 15, lines 1-29); and,

implementing storage operations of the data for the associated protected computer system using the associated storage devices in accordance with the associating (e.g., see col. 24, lines 5-24).

As to claim 25, Wahl teaches a quantity of data of the protected computer systems to be stored exceeds individual capacities of individual storage devices (e.g., see col. 3, lines 24-37).

As to claim 26, Wahl teaches maintaining a record of the association of the storage device and one client protected computer system (e.g., see Figure 5).

As to claim 27, Wahl teaches the monitoring comprises monitoring storage capacities of the storage devices (e.g., see col. 15, lines 1-29).

As to claim 28, Wahl teaches the monitoring comprises monitoring processing capacities of the storage devices (e.g., see col. 15, lines 1-29).

As to claim 29, Wahl teaches the monitoring and assigning comprise monitoring and assigning using storage control circuitry (e.g., see col. 15, lines 1-29).

As to claim 30, Wahl teaches providing the storage control circuitry comprises a distributed control system (e.g., see col. 5, line 32 to col. 6, line 58).

As to claim 31, Wahl teaches associating a protected computer system with a storage device having a greatest available capacity as dynamically assigning disk storage space (e.g., see col. 3, lines 24-37).

As to claim 32, Wahl teaches transferring at least a portion of the data of a protected computer system from the storage device to another storage device (e.g., see Figure 5).

12. Wahl teaches the invention (claim 33) as claimed including a data storage method comprising:

a plurality of storage devices configured to store data for a plurality of client protected computer systems, the storage devices individually comprising processing circuitry (e.g., see Figure 1);

storing the data using the storage devices (e.g., see Figure 1);
monitoring capacities of the storage devices using storage control circuitry as dynamically assigning disk storage space (e.g., see col. 3, lines 24-37);
providing a new storage device configured to store data for at least one of the protected computer system (e.g., see col. 23, line 61 to col. 24, line 64); and,
coupling processing circuitry of the new storage device with the storage control circuitry (e.g., see Figure 5).

As to claim 34, Wahl teaches monitoring capacity of the new storage device using the storage control circuitry after the coupling (e.g., see col. 15, lines 1-29).

As to claim 35, Wahl teaches monitoring processing capacities of the storage devices (e.g., see col. 15, lines 1-29).

As to claim 36, Wahl teaches monitoring storage capacities of the storage devices (e.g., see col. 15, lines 1-29).

RESPONSE TO APPLICANT'S REMARKS

13. Applicant's arguments filed January 4, 2007 have been fully considered but they are not persuasive. Parts of the claims are being argued in much greater detail than warranted by the actual claim language as well the reference is not being considered as a whole in teaching the claimed limitations.

14. The Wahl reference is being misinterpreted by the Applicant's representative. The reference is directed toward either a LAN or WAN which protects data by mirroring the data. This means the networks have protected client systems to the extent claimed in the current application.

15. As to the storage capacity being exceeded in the claim language, this element is also taught to the extent required by the actual claim language. The limitation in the claims state only that a storage capacity can be exceeded and does not give further details concerning this element.

16. As to the 'assigning of individual ones of the individual storage devices to store data for respective ones of the protected computer systems', this element is also taught to the extent actually claimed. As the reference teaches a networked system of computers with failure recovery for network remote data mirroring system data being automatically recovered at a local, primary, remote, and/or secondary computer system, the individual storage devices are assigned for the mirroring and updates to the individual system being mirrored or updated. This is discussed to the extent required by the claim language in the summary of the invention of the reference.

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

CONCLUSION

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reba I. Elmore, whose telephone number is (571) 272-4192. The examiner can normally be reached on Tuesday and Thursday from 7:30am to 6:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor for AU 2189, Reginald G. Bragdon, can be reached for general questions concerning this application at (571) 272-4204. Additionally, the official fax phone number for the art unit is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center central telephone number is (571) 272-2100.



Reba I. Elmore
Primary Patent Examiner
Art Unit 2189

Friday, March 23, 2007
